Photo by Coleen Vansant

Beating the Heat in the "Sunny South"

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Many people refer to the states below the Mason-Dixon Line as the Sunny South, but for those of us who live here, we just call it "hot." Living in the South in the summer has many rewards and benefits – scorching summer heat and breath-taking humidity are not included on the list.

Because of the extremely hot and muggy summer months, we are susceptible to heat-related illnesses. Although very preventable, many people become ill or die annually as a result of extreme heat. According to the Center for Disease Control, from 1979 to 1999 excessive heat exposure caused 8,015 deaths in the United States. During this period, more people in this country died from extreme heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined. In 2001, 300 deaths were caused by excessive heat exposure.

Heat-related illnesses occur when our bodies are unable to compensate and properly cool themselves. The body normally cools itself by sweating but under some conditions sweating isn't enough, causing the person's body temperature to rise rapidly. Several things can affect the human body's ability to cool itself during extremely hot weather. In high humidity, sweat will not evaporate as quickly, preventing the body from releasing heat quickly. Other risk factors include age, obesity, fever, dehydration, heart disease, mental illness, poor circulation, sunburn, certain prescription drugs, and alcohol use.

Most people do not realize that even exposure to short periods of high temperatures can cause serious problems. Heat-related illnesses can occur by doing too much on a hot day, spending too much time in the sun, or even staying in an overheated place. Two of the most serious heat related health conditions are heat stroke and heat exhaustion.

Heat Stroke

Heat stroke is the most serious heat-related illness. It occurs when there is excessive fluid and salt loss in hot or humid conditions, leading to general dehydration and exhaustion. The body's ability to cool itself shuts down, causing the body temperature to rise rapidly. The natural sweating mechanism shuts down. Under these conditions body temperature may rise to 106^{o} F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not provided.

Some of the warning signs of heat stroke include:

- An extremely high body temperature (above 103^{o} F, orally)
- Flushed, hot and dry skin (no sweating)
- Rapid, strong pulse
- Throbbing headache
- Dizziness
- Nausea
- Confusion
- Unconsciousness

If any of these signs occur, you could be dealing with a life-threatening situation. Immediately call 911 and begin cooling down the victim.

Ways to cool down the victim:

- Get the person to a shady area.
- Cool them rapidly using whatever methods you can. Examples: immerse the victim in a tub of cool water; place them in a cool shower; spray the victim with cool water from a garden hose; sponge them with cool water; or

wrap the victim in a cool, wet sheet and fan him or her vigorously.

- Monitor the body temperature and continue cooling the body until the victim's temperature drops to 101-102° F.
- Do not give a heat stroke victim fluids to drink. Cool the body from the outside.
- Get medical assistance as soon as possible.

Heat Exhaustion

Heat exhaustion is not as serious as heat stroke, and it usually develops after several days of exposure to high temperatures or inadequate/unbalanced fluid replacement. This illness is the body's response to an excessive loss of the water and salt contained in sweat. People most prone to heat exhaustion are the elderly, those with high blood pressure, and persons who work or exercise in a hot environment.

Some of the warning signs of heat exhaustion are:

- Heavy sweating
- Dry tongue and thirst
- Cold, clammy skin with an ashen pallor
- Muscle cramps
- Tiredness
- Weakness
- Headache
- Nausea or vomiting
- Feeling faint, dizzy, or weak

When a person is suffering from heat exhaustion, their pulse rate will be fast and weak, and breathing will be fast and shallow. The skin may be moist and cool. If untreated, heat exhaustion can progress to heat stroke. If the victim has heart problems or high blood pressure or if the symptoms are severe, call 911 for medical services immediately. If these conditions do not exist, you should assist the victim in cooling off.

Cooling measures may include:

- Move person to a cool place.
- Loosen tight-fitting clothing or remove extra layers of clothing.
- Drink cool, non-alcoholic beverages.
- Rest.
- Take a cool shower or bath.
- Apply cool wet cloths to the body.

You should limit physical activity until the symptoms disappear.

The best preventative measure against heat-related illnesses is to stay indoors where there is air conditioning. But for those who work or have activities requiring you to be outside in the summer heat, there are measures you can take that will aid the body's cooling mechanisms to prevent a heat-related health crisis.

Drink plenty of fluids – In hot weather you should increase your fluid intake regardless of your activity level. While doing outdoor activities or anything in a hot environment, you should drink two to four (16-32 ounce) glasses of cool fluids each hour. Don't drink liquids that contain caffeine, alcohol, or large amounts of sugar – these can make you lose body fluid.

Replace salt and minerals – This can be done by drinking sports drinks. If you are on a low-salt diet, you may want to avoid sports drinks.

Wear appropriate clothing and sunscreen – Wear lightweight, light-colored, loose-fitting clothing. If you go outdoors, protect yourself from the sun by wearing a wide-brimmed hat, sunglasses, and an SPF-15 or higher sunscreen.

Plan outdoor activities – Limit your outdoor activities to the morning and evening hours. Consider postponing outdoor sports events for the sake of both players and spectators. If you do work or play outside, take frequent breaks in a shady place and drink plenty of liquids.

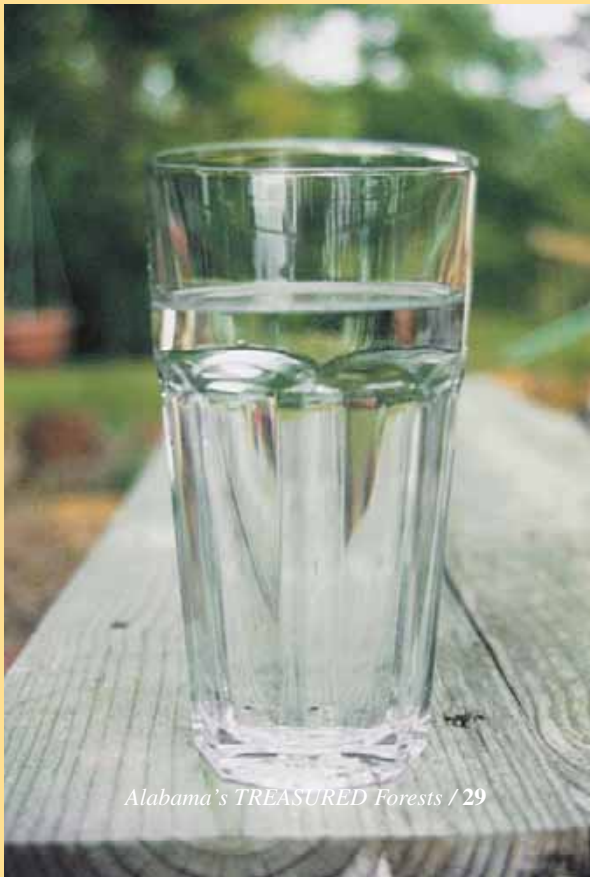
Pace yourself – The best rule is to start slowly and pick up the pace gradually. If exertion in the heat makes your heart pound or makes you gasp for breath, stop and get into a cool area or shade.

Use a buddy system – Partners can keep an eye on each other. Check on coworkers and have them check on you. If you are planning to work outside in the heat alone, let someone know and schedule a check-in time with them. Keep your cell phone close by.

Monitor those at high risk – Those at high risk include infants and children up to four years old, people 65 years old or older, overweight people, people who overexert during work or exercise, the physically ill (especially with heart disease or high blood pressure), and people who take certain medications.

Use common sense:

- Avoid hot foods and beverages and heavy meals – they will add heat to your body.
- Drink plenty of fluids.
- Dress in cool, loose clothing and shade your face with a hat or umbrella.
- Limit your exposure to the sun during mid-day hours.
- Do not leave infants, children, or pets in a parked car.



Water – one of the best defenses against heat-related illnesses.
Photo by Coleen Vansant

Resources:

http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp

http://www.orthoinfo.org

http://www.disastercenter.com/guide/heat.html

http://kidshealth.org

http://www.drreddy.com/heat.html